The following three urban forestry articles were written by Olivia Witthun (920-662-5485) and Tracy Salisbury (920-662-5450) in the Northeast Region of Wisconsin Department of Natural Resources.

Trees Are Money in Your Pocket

Would you invest in a stock that would quadruple your investment in 40 years? An increasing understanding of the economic benefits of trees is causing more and more people to plant them. Homeowners, businesses and municipalities alike, can all receive the benefits of trees. The savings on energy costs and the increase of property values are like money in your pocket.

According to Richard St. Barbe Baker, a world-famous environmentalist, "You can gauge a country's wealth, its real wealth, by its tree cover."

Would you like to save up to 30% on your air conditioning bills this year? According to the U.S. Department of Energy, "A well-planned landscape can reduce the summer air conditioning costs to an unshaded home by 15% to 50%." In winter, you can use strategically placed trees to reduce your energy consumption. Trees used as windbreaks cut winter fuel use by up to 40%. These savings are good not only for your pocket book, but also the environment.

With the current booming housing market, increasing your property value is high on many people's to-do list. The USDA Forest Service claims "large specimen trees can add 10% or more to property values." According to the International Society of Arboriculture, "Property values of landscaped homes are 5-20% higher than those of non-landscaped homes." You maintain and care for your house. It makes good sense to do the same for your trees.

Trees contribute economic benefits by filtering storm water, reducing runoff, helping to prevent flash flooding, and lessening the burden on our storm sewer systems. Stormwater runoff places a heavy burden on our sewer systems and the environment. The runoff carries with it fertilizers, pesticides, litter, sediment, pet waste, and other chemicals. In New Berlin, Wisconsin, analysis of residential test plots using CITYgreen, showed their trees reduced storm water peak flow by 15 percent and runoff by 12 percent. That equates to a huge savings for the city of New Berlin.

Some communities channel runoff through their sewer system to be treated. Other communities channel runoff through a specific stormwater system, typically draining into our waterways and drinking water sources. Either solution is costly and requires complicated engineering projects. Why not put nature to work and let trees reduce the amount of stormwater that needs to be treated?

Trees even have an economic impact on shopping. According to a study by Kathleen L. Wolf, shoppers are willing to spend up to 12% more for goods in areas with trees vs. areas with no trees. People also frequent areas with trees more often and tend to shop longer. This news bodes well for area businesses. Who knew something as simple as trees in the urban landscape could increase profits.

Trees figure heavily into our state economy. Governor Jim Doyle wrote, "The Green Industry contributes over $2.7 billion annually, while providing over 43,000 jobs. It is an extensive industry that affects all Wisconsin residents. Economically, environmentally, and aesthetically, the Green Industry serves as a wonderful compliment to Wisconsin's natural beauty."

What's your wealth?

Trees Are Nature's Workhorses

Trees are nature's workhorses. They clean the air, soil and water. Trees keep us cool in the summer and warm in the winter. They control erosion. And they provide wildlife habitat in cities. Additionally, trees screen unsightly views and buffer noise. What else can look so beautiful and yet work so hard? Trees make our communities pleasant places to live.

Temperatures in our cities and suburbs are 2-10 degrees hotter than the surrounding countryside. City surfaces such as rooftops, streets, and parking lots absorb heat, increasing the temperature of the surrounding air. This is known as the urban heat-island effect. Raising temperatures make us hotter and increase energy use and cost. Currently, 3-8% of electricity demand in cities is used to counteract the heat-island effect. Smog and heat-related illnesses also increase with the temperature. The good news is that nature can provide relief. Trees help combat the urban heat-island effect in our cities. They cool the air by providing shade and through evapo-transpiration (the evaporation of water from leaves). Study findings published in the Journal of Arboriculture show that "neighborhoods with well-shaded streets can be up to 10 degrees cooler than neighborhoods without trees."

Trees improve the air quality. They give us oxygen to breathe as they remove carbon dioxide from the air. Just one tree can provide a family of four their daily oxygen needs. By helping remove carbon dioxide, trees are reducing the greenhouse effect, thus combating global warming. Trees also remove other pollution from our air. They absorb sulfur dioxide and nitrogen oxide, two major components of acid rain and ozone pollution. The EPA recognizes tree programs as viable tools in helping states meet the requirements of the Clean Air Act. Additionally, trees filter out larger particles such as dust, ash, pollen, and smoke. So unplug your Ionizer and plant a tree.

Trees help control erosion. Their roots stabilize city soil and prevent wind and rain from washing it away. When planted as windbreaks, trees help prevent erosion of soil from gardens and farm fields. When planted as greenbelts around waterways, trees help prevent water from washing away stream banks, river banks and lake shores, preserving water quality.

Do you enjoy bird watching? Does the site of two squirrels chasing each other around a tree make you laugh? Thank the trees. The urban forest provides valuable habitats for wildlife. Trees offer shelter, shade, nesting sites and a food source. Birds, reptiles, amphibians, mammals, insects, and worms all live here. As community development continues, wildlife habitat is decreasing. With proper planning and enrichment of existing habitat, we can help ensure that urban areas remain important wildlife habitats.

Trees perform their magic underground too. They enrich the soil and can clean it as well. Tree debris adds organic matter to the soil. Leaves act as mulch cooling the soil, absorbing moisture and decomposing into nutrients for other plants to use. The natural power of trees can clean up toxic waste from polluted sites. This process, called phyto-remediation, is inexpensive and environmentally friendly. Roots from trees absorb certain contaminants from soil and water which leads to a much healthier and more beautiful place to live.

Let's all return to a more natural, less artificial place to live. Planting trees leads us toward this goal. The work that trees do benefits the air, water, land, animals, and us.

Trees Help Create Strong Communities

Have you ever stopped to think how trees affect us? Not economically or environmentally, but how they affect us socially and psychologically? Trees and greenspace have an influence on our emotional and physical health and even on our behavior. Trees affect our well-being in ways that are seldom understood, and often underestimated.

Would you like lower incidences of crime in your neighborhood? A study done by University of Illinois researchers Frances E. Kuo and William C. Sullivan show "the greener the surroundings, the fewer crimes occur against people and property." Buildings with high levels of greenery had 52% fewer crimes than those without. Several factors combine to suggest why this is so. Green spaces bring people together outdoors, discouraging crime. It shows people care about their property, and are watching over it and each other. Quite possibly, people feel more relaxed and less aggressive in green spaces.

Trees help define a neighborhood and provide a sense of community. People are naturally drawn to the outdoors. Neighbors get together and form social bonds. This creates a strong community where people feel involved with, and supported by their neighbors. Can it be possible that all these social benefits accrue from trees? Trees can make you healthier. The very presence of trees can relax you. Studies show that after exposure to trees, a person's heart rate is lower and their blood pressure goes down. Another study by Roger Ulrich, a behavioral scientist, has shown that hospital patients need less pain medication and recover quicker when they have a view of greenery as opposed to those with a view of a brick wall.

Recreational opportunities abound on local trails which almost always feature trees along their routes. Joggers, bikers and walkers can all attest to the great exercise they receive from using the trail systems, and their use of tree-lined trails for recreation definitely results in personal relaxation and a sense of well-being.

More than 2 million children in the U.S. suffer from Attention Deficit Disorder (ADD). Relief often comes in the form of medication, but a new study by University of Illinois researchers Andrea Faber Taylor, Frances E. Kuo and William C. Sullivan adds another alternative therapy to the mix. The study shows that the symptoms experienced by children with ADD are relieved after contact with nature. The greener the setting, the more the relief. These researchers claim that "maintaining trees and greenery near the home and encouraging ADD kids to go out and play may be a compelling approach to help ADD kids function better."

The researchers also say that "maintaining trees and greenery at home may help support in girls the self-discipline they need to succeed." In this particular study, girls scored higher on a test of self-discipline when they had views of nature from their home. The greater a girl's self-discipline, the more likely she is to do well in school, to avoid unhealthy or risky behaviors, and to behave in ways that foster life success. This is something we all want for our children. Anything to help us achieve this success is beneficial, especially something so simple as to plant a few trees.

Worker productivity is also correlated to trees. A survey conducted by Dr. Rachel Kaplan showed workers without a view of nature from their office window reported 23% more incidences of illness. Those with a view of nature from their window had better health, less sick time, greater enthusiasm for job, less frustration, and higher life satisfaction.
So, what does this all mean? There is something innate about being around trees. They make us feel good. How trees accomplish this we may never know. Maybe someday doctors will prescribe a walk in the park to help lower blood pressure or more offices will have a view of nature to help increase worker productivity.

Robert Louis Stevenson wrote, "It is not so much for its beauty that the forest makes a claim upon men's hearts, as for that subtle something, that quality of air that emanates from old trees, that so wonderfully changes and renews a weary spirit." Remember, when life has you feeling a little stressed-out go visit your favorite tree, it will help "change and renew your weary spirit".